

Amendments

In The Specification:

Please amend the specification as follows:

Page 4, replace the paragraph beginning on line 21 with the following rewritten paragraph:

This technique of evaluation makes use of the diffraction of the limiting rays on the object edges. It is only slightly influenced by variations of the laser output and a variation of the intensity of the laser radiation in the course of the scanning operation. It can be realised with both a laser scanner with separate emitter and receiver units (cf. Fig. 4) and laser scanners comprising a joint emitter/receiver unit (cf. Fig. 3). In the latter case, it may be expedient to dispose an additional lens 16 ahead of the dark field stop.

Page 5, replace the paragraph beginning on line 9 with the following rewritten paragraph:

The amplitudes of these signals are low in arrays in correspondence with prior art and yet they are suitable to interfere with measurement. One of the inventive arrays leads to the effect that the reflections on the inner wall provide very well detectable signals with a high signal-to-noise ratio from which the wall thickness of the tubes can be calculated. These signals are appropriate for very good analysis by determining those points of time by means of the electronic analyzing system by which the signal reaches local maximum levels. One method to this end consists in a verification of the following conditions by means of the electronic analyzing system 21:

Page 8, replace the paragraph beginning on line 30 with the following rewritten paragraph:

When, in addition to this splitting, one or several filters 20 are inserted into the receiver beam path, which are selective in terms of wavelength, it is possible to measure the following

parameters for substances (such as PET) displaying an intrinsic polarised fluorescence:

Page 10, replace the paragraph beginning on line 6 with the following rewritten paragraph:

The receiver module is provided with means for mounting detector modules thereon (cf. the schematic illustration in Fig. 10b), lenses or mirrors (items A to H in Fig. 10a) and beam splitters (cf. items St1 to St3 in Fig. 10a). Alternatively, a position-resolving photo diode D5 can be used in the present invention. Depending on the equipment of the receiver module and the selected arrangement various measured parameters can be derived. Some examples thereof are listed in Table 1:

In the Claims:

Please cancel claim 24 and amend the claims as follows:

14. (Twice Amended) A laser scanner measuring system for measuring macroscopic geometric parameters of an object, the macroscopic geometric parameters including at least one of contour, size and wall thickness of the object, the system comprising:

an emitter unit having a laser, a beam deflector unit and an optical emitter system which define a scanning beam path and a scanning plane;

a receiver unit including a photo detector disposed in the focal plane of an optical receiver system for a receiver beam path, wherein the surface normal of said optical receiver system is parallel with the scanning beam path, the receiving unit receiving the beam after scanning the object and generating a signal;

a dark field stop disposed ahead of said photo detector in the receiver beam path in the focal plane of said optical receiver system;